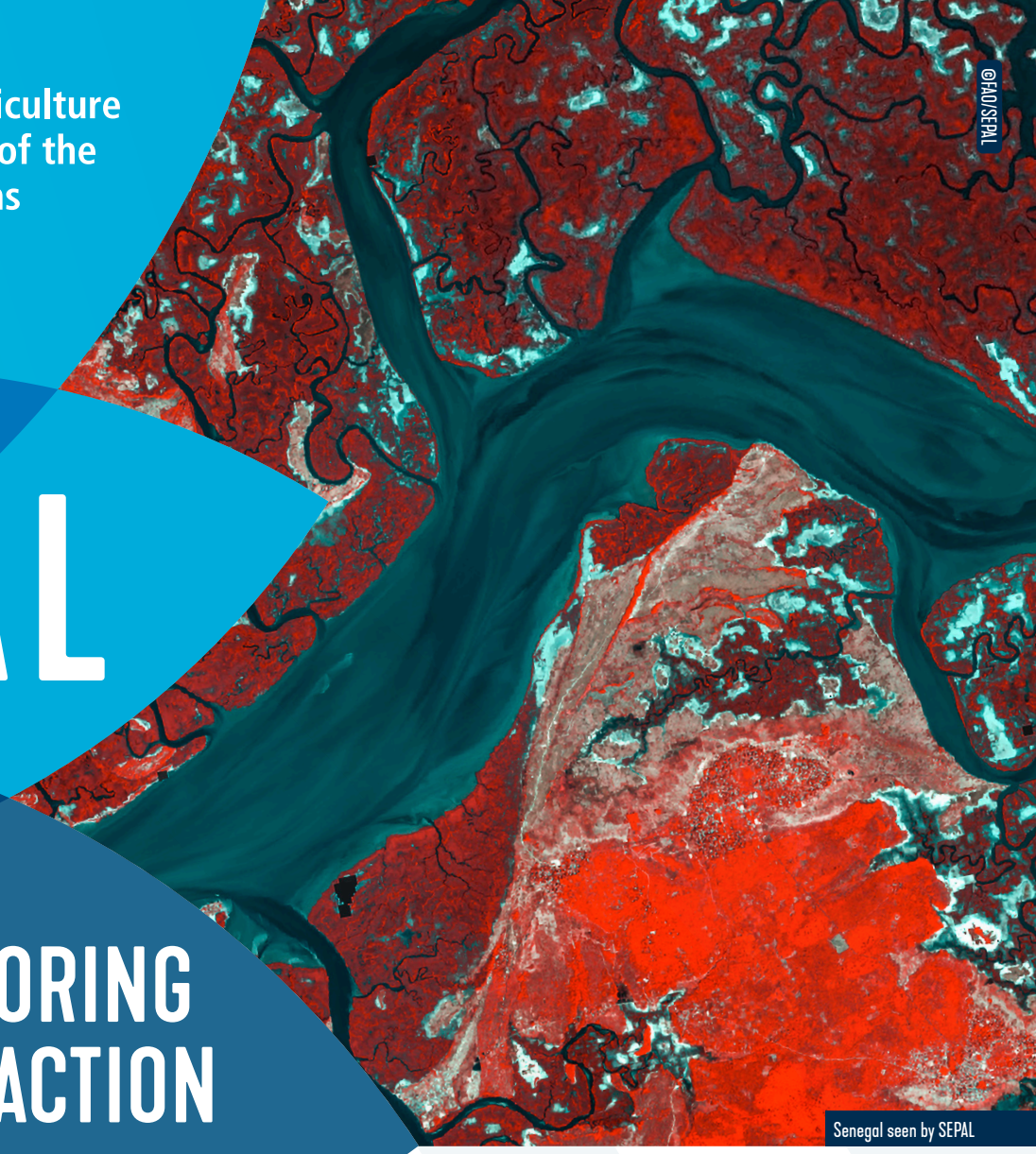
Food and Agriculture Organization of the United Nations

SEPAL

FOREST and LAND MONITORING for CLIMATE ACTION

SEPAL.IO



Senegal seen by SEPAL

System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL) is an open-source project serving and empowering people around the world - from research organizations and government agencies to non-governmental organizations and academic institutions - to gain a better understanding of land cover dynamics by facilitating the efficient access and use of Earth observation data.

The first phase of SEPAL was successfully carried out from 2016 to 2021, implemented by the Forestry Division of the Food and Agriculture Organization of the United Nations (FAO) and financed by an initial contribution from Norway's International Climate and Forest Initiative (NICFI); the second phase – Forest and Land Monitoring for Climate Action – is a four-year project that aims to improve climate change mitigation plans and create better informed land-use policies, as part of a larger goal to make significant contributions to the Paris Agreement and the Sustainable Development Goals, particularly SDG 13: Climate Action and SDG 15: Life on Land. A third phase is being planned with the support of NICFI.

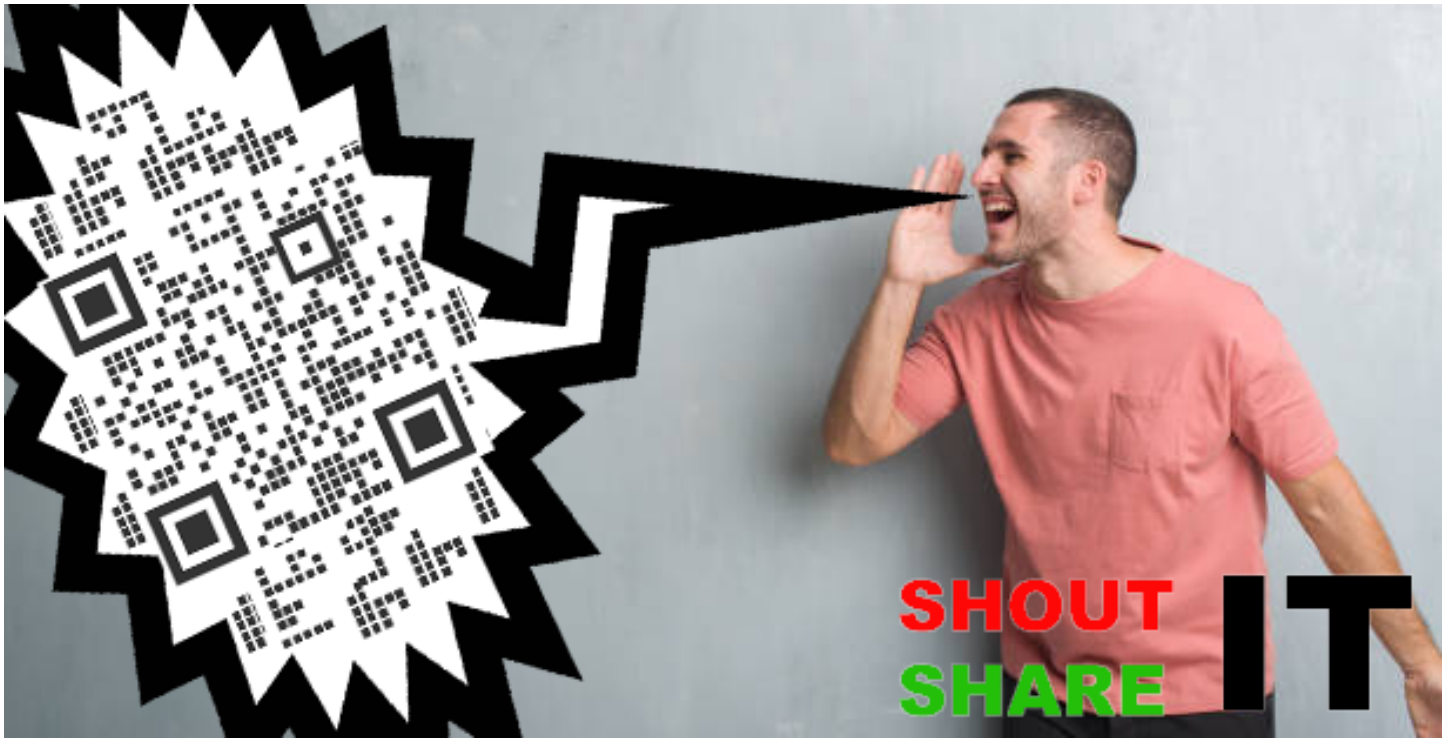
WHAT IS SEPAL?

THE PLATFORM

SEPAL is a free, open-source, online platform that enables autonomous processing of geospatial data for customized land and forest monitoring by anyone, anywhere. Part of the Open Foris suite of solutions, the platform empowers users to process satellite data, create maps, and detect land cover and land-use change. SEPAL also provides many other functions critical to effective land management without the need of coding skills.

It is connected to modern geospatial data infrastructures, such as Google Earth Engine, further driving the generation of high-integrity forest and land-use data that enable countries to attract public and private carbon finance for forest-related climate action.

SEPAL caters to specific monitoring and reporting needs through dedicated modules, such as SE.PLAN for spatially explicit forest restoration planning, SE.PAFE for monitoring fires in real-time, and BFAST-GPU for running dense, large-area, time-series analyses. SEPAL supports countries to meet Tropical Forest Forever Facility (TFFF) eligibility and monitoring standards by customizing the platform with tailored geospatial solutions.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The SEPAL platform has also been integrated with FAO's Hand in Hand (HiH) geospatial platform, a key enabling tool for FAO's HiH Initiative, which provides advanced information, including food security indicators and agricultural statistics, for more targeted agriculture interventions, contributing to digital agriculture transformation and rural development.

SEPAL is based on the following **key principles:**

- inclusiveness;
- data democratization;
- focus on results;
- attention to innovative technologies; and
- long-term sustainability.

THE PROJECT

GOALS AND PLANNED ACTIONS

Operationalizing and institutionalizing innovative technologies for using geospatial data is key to producing accurate, transparent information critical for reversing climate change.

SEPAL's goals are to support countries in their efforts to halt tropical deforestation and degradation, and to enhance reforestation and restoration by:

providing a free, easily accessible, powerful platform for efficient geospatial data access and customized processing;

enhancing global capacity to operationally apply high-resolution satellite images to critical forest and land monitoring issues; and

building country capacity in high-resolution satellite imagery applications for critical forest and land monitoring issues in response to domestic policy needs.

IMPACT

22 000 users from over 186 different countries;

92 countries trained on the use of geospatial data for forest and land monitoring;

institutional arrangements and clear links to policy formulation, implementation and evaluation; and

institutionalization of data use at the national level.

IN ACTION

- Indigenous Peoples in Nicaragua and Peru are using SEPAL geospatial data **for creating customized information products**.
- Uganda, Equatorial Guinea and Ethiopia are using SEPAL to **monitor degradation** in dry and humid tropical forests.
- Many countries, from Bhutan to Ecuador, are using SEPAL **to map deforestation**, with a recent focus on central Africa, the Kavanago-Zambezi Basin, and dry forests of southern Africa.
- Indonesia is using SEPAL **to monitor peat moisture content** as part of efforts to protect and restore peatlands.
- The Lower Mekong region is using SEPAL for **reforestation tracking efforts**.
- TFFF support includes Brazil, the Democratic Republic of the Congo, Ghana, Indonesia, Kenya, Papua New Guinea and Peru, with potential expansion to additional countries.

PARTNERS

As a global public good, SEPAL promotes and strengthens the collaboration between the main agencies that help countries effectively deliver the services promised by Big Data analytics, including the dissemination and exchange of results, which can improve the accessibility and transparency of data.

Main partners include:

Norway's International Climate and Forest Initiative (NICFI), The World Bank, The National Aeronautics and Space Administration (NASA), The European Space Agency, SilvaCarbon, The Group on Earth Observations (GEO), and The Global Forest Observations Initiative (GFOI).

NICFI
Norway's International Climate and Forest Initiative

MORE INFORMATION

JOIN THE PLATFORM
SEPAL.IO

DISCOVER THE IMPACT
FAO.ORG/IN-ACTION/SEPAL/

BROWSE THE OPEN FORIS SUITE OF TOOLS
OPENFORIS.ORG

Scan the QR code to watch the video about SEPAL: A powerful, open-source platform for forest and land monitoring

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